

Jacob; R becca (ASRC)

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Fr m: STIC-ILL
Sent: Thursday, October 10, 2002 9:25 AM
To: Jacob, Rebecca (ASRC)
Subject: FW: ill request

-----Original Message-----

From: Mellerson, Kendra
Sent: Thursday, October 10, 2002 9:25 AM
T : STIC-ILL
Subject: FW: ill request

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From: Soderquist, Arlen
Sent: Wednesday, October 09, 2002 2:38 PM
To: STIC-EIC1700
Subject: ill request

Arlen Soderquist AU 1743 308-3989 CP3-7A11
Serial No. 09/409644 Needed by 10-17-02
Abstract

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AN 125:346596 CA

TI Multi-frequency measurements of organic **conducting** polymers for sensing of
gases and vapors

AU Amrani, M. E. Hassan; Payne, Peter A.; Persaud, Krishna C.
CS Dep. Instrumentation and Anal. Sci., Manchester, M60 1QD, UK
SO Sensors and Actuators, B: Chemical (1996), B33(1-3), 137-141
AB Elec. **conducting** org. polymers display elec. **conductivities** that are
dependent on the concn. of dopant ions incorporated in the material. The
cond., usually measured using d.c. techniques, may be modulated reversibly
and rapidly at ambient temp. by adsorption and desorption of **volatile**
chems. This phenomenon has immense practical use for **gas** and odor sensing.
By using arrays of **conducting** polymer **sensors** having broadly overlapping
specificity to a range of **volatiles**, we are able to measure and assign
descriptors to the **volatiles**. In this paper we show that similar
descriptors can be generated by using a.c. (ac) at suitable frequencies to
follow the changes in **sensor** capacitance, **conductance** and dissipation
factor. We also show that using a single **sensor** we can obtain
discrimination between chem. species. The ac response characteristics of
these **sensors** have been modelled using a simple elec. circuit equiv. and we
how that the model is a good predictor of **sensor** performance.

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